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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/755,687	01/05/2001	Alain Benayoun	FR919990107US1	4006
28722	7590	03/12/2004	EXAMINER	
BRACEWELL & PATTERSON, L.L.P.			PATHAK, SUDHANSHU C	
P.O. BOX 969			ART UNIT	
AUSTIN, TX 78767-0969			PAPER NUMBER	

2634

DATE MAILED: 03/12/2004

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Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/755,687

Applicant(s)

BENAYOUN ET AL

Examiner

Sudhanshu C. Pathak

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on January 5<sup>th</sup>, 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-25 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-25 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on January 5<sup>th</sup>, 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 1.
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: \_\_\_\_\_.

### DETAILED ACTION

1. Claims 1-to-25 are pending in the application.

#### *Drawings*

2. Figure 1 should be designated by a legend such as "Prior Art" because the figure discloses a schematic representation of a "conventional" ADSL system, that which is already known.

Correction is required.

3. Figure 2B discloses a conventional ADSL system which has been switched into reverse mode in accordance with the invention, but the designation for the data flow has not been inverted i.e. when the system is reversed element " 34' " should be designated as medium speed "K bits/s" and element " 36' " should be designated as high speed "M bits/s" similarly element " 38' " should be designated as medium speed "K bits/s" and element " 40' " should be designated as high speed "M bits/s".

Correction is required.

#### *Specification*

4. Applicant is reminded of the proper language and format for an abstract of the disclosure.

**The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length** since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

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The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

Correction is required.

***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1-4, 7-12 (Method Claims) & 15-18, 21-24 (Apparatus Claims), are rejected under 35 U.S.C. 103(a) as being unpatentable over the Applicant Admitted Prior Art (AAPA) in view of Seazholtz et al. (5,812,786) in further view of Polley et al. (5,999,563).

Regarding to Claims 1-4, 7-12, 15-18 & 21-24, the Applicant Admitted Prior Art (AAPA) discloses an Asymmetric Digital Subscriber Line (ADSL) system comprising a central exchange equipment (CE) connected to a service provider network and a user equipment (UE) connected to a user workstation, wherein said CE and said UE are interconnected by a PSTN link, said CE including an input line for transmitting high-speed data from said service provider network to said user workstation and an output line for receiving medium-speed data from said user workstation and further comprising CE coding/decoding means for coding said high-speed data and decoding said medium-speed data, said UE including an input line for transmitting medium-speed data from said user workstation to said service provider network and

an output line for receiving high-speed data from said service provider network and also including UE coding/decoding means for coding said medium-speed data and decoding said high-speed data (Fig. 2A & Specification, Page 9, lines 24-31 & Page 10, lines 1-9). However, the AAPA does not disclose transmitting an inverting request message from the UE to the CE, and in response to the receiving the inverting message activating the coding/decoding means for coding medium-speed data on the CE input line and decoding high-speed data on the CE output and further transmitting a first acknowledgement message from the CE to the UE informing the UE that transmission in reverse mode is authorized and then the UE upon receiving the first acknowledgement transmitting the second acknowledgement from the UE to the CE.

Seazholtz discloses a variable rate and a variable mode ADSL transmission system comprising a central exchange equipment (CE) and a user equipment (UE) (Abstract, lines 1-14 & Fig. 1 & Column 2, lines 45-67 & Column 3, lines 1-20 & Column 12, lines 3-30). Seazholtz further discloses transmitting an inverting request message from the UE to the CE to transmit high speed data from the UE to the CE (Column 3, lines 35-60 & Column 12, lines 5-30 & Column 13, lines 65-67 & Column 14, lines 1-67); and in response to the inverting request message, activating the CE coding/decoding means for coding medium-speed data on the CE input line and decoding high-speed data on the CE output line (Column 8, lines 17-20 & Column 10, 35-45 & Column 12, lines 5-30, 55-62 & Fig. 6-7, elements "Decoder / Error Correction"). Seazholtz further discloses the inverting message transmitted from the

UE to the CE to be a control message transmitted in a control channel multiplexed with data (Column 13, lines 54-67 & Fig. 6-8). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention that Seazholtz teaches an ADSL transmission system operating in multiple modes as chosen by the subscriber, by transmitting a request as a control message over a control channel, including inverting mode wherein the UE transmits at high data rate and the CE transmits at a medium data rate, and can be implemented in the system as described in the AAPA and the appropriate coding / decoding modules can be activated to transmit and receive the data in the reverse mode to successfully receive the data in this mode thus providing a configuration useful in applications in which large amounts of information is transmitted to the CE or in communication between UE's through the CE. However, AAPA in view of Seazholtz does not disclose transmitting "ack" messages upon receiving the request messages.

Polley discloses a rate negotiation for a variable rate DSL signaling implemented at the beginning of the communication session through the exchange of tones between the modems (Abstract, lines 7-16 & Column 5, lines 27-39). Polley also discloses a process of handshake for synchronization the subscriber and central office modems (Column 4, lines 40-48 & Column 8, lines 46-51) to include a respond / confirm acknowledgement schemes (Column 13, lines 2-7 & Fig. 3d-e & Column 21, lines 30-50 & Column 14, lines 43-67). Polley further discloses transmitting multiple tones from the UE for signaling data transmission rates and other control messages (Column 13, lines 8-35 & Column 14, lines 5-25 & Column 21, lines 30-

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50). Polley further discloses exchanging multiples tones between the UE and the CE wherein both the UE and the CE detect the transmitted tones and respond appropriately either with another tone as a conformation or data (Column 14, lines 43-64). Polley further discloses allocation of a control channel used to send and receive all control information including rate negotiation information (Column 20, lines 35-40). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention that implementing the protocol as described Polley in the system as described in AAPA in view of Seazholtz provides an acknowledgement scheme between the CE and the UE, wherein the ack messages are transmitted back and forth so as to provide multiple messaging signals and synchronization between the modems for more accurate reception of the data exchange.

Furthermore it is obvious to one of ordinary skill that a tone decoder and a tone generator are needed to generate (transmit) and detect (receive) the tones implemented in the system as described in Polley. Therefore, the AAPA in view of Seazholtz in further view of Polley satisfies the limitations of the claims.

7. Claims 5-6, 13-14 (Method Claims) & 19-20, 25 (Apparatus Claims), are rejected under 35 U.S.C. 103(a) as being unpatentable over the Applicant Admitted Prior Art (AAPA) in view of Seazholtz et al. (5,812,786) in further view of Polley et al. (5,999,563) in further view of Kidambi et al. (6,424,626).

Regarding to Claims 5-6, 13-14, 19-20 & 25, the Applicant Admitted Prior Art (AAPA) in view of Seazholtz in further view of Polley discloses a method and apparatus for a variable rate and variable mode DSL transmission employing an

acknowledgement message scheme between the UE and the CE as described above. However, the above reference do not disclose an FIFO buffer for storing data that is received by the CE from the network until a second acknowledgement message has been received by the CE from the UE or storing data from the workstation until the first acknowledgement message is received by the UE.

Kidambi discloses a method and system for transmitting data packets over an ADSL line comprising a transceiver further comprising a FIFO buffer to store packets in a queue until it is ready to be transmitted (Column 1, lines 5-15 & Column 6, lines 25-37 & Claim 11). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention that implementing an FIFO as described in Kidambi in the system described in AAPA in view of Seazholtz in further view of Polley to store data while performing an handshake (acknowledgement) between the CE and the UE minimizes the loss of data needed to be transmitted from the CE to the UE or vice versa and further minimizes the latency in the communication exchange due to the inverting of the ADSL system. Furthermore, there is no criticality in the authorization of transmitting in reverse mode in response to FIFO being full prior to second acknowledgement message being received by the CE or the UE authorizing reverse mode in response to FIFO being full this is a matter of design choice of the protocol implementation in an ADSL system and a respective signaling process.

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8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sudhanshu C. Pathak whose telephone number is (703) 305-0341. The examiner can normally be reached (Monday-Friday from 8:30 AM to 5:30 PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen Chin, can be reached at (703) 305-4714.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks Washington, D.C. 20231

Or faxed to: -

(703) 872-9314 (for Technology Center 2600 only)

Hand-delivered responses should be brought to: -

Crystal Part II, 2121 Crystal Drive, Arlington, VA, Sixth Floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 Customer Service Office whose telephone number is (703) 306-0377.



STEPHEN CHIN  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2600